City of Seattle
Office of City Auditor

Organizational Review of Transportation Functions

FINAL REPORT

Prepared By:

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Seattle, Washington

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I. INTRODUCTION

Seattle City Council issued a Statement of Legislative Intent (SLI) for an Organizational Review of Transportation Functions to be performed by an outside consultant and coordinated through the City Auditor's Office. The Nielsen-Wurster Group was selected in April 1998 to provide this independent review and assessment with the overall objective to assure optimization of the delivery of transportation projects in the City of Seattle and to make recommendations on organizational responsibility and processes to enhance overall performance. Currently responsibility for transportation functions is split among three entities: Office of Management and Planning's (OMP), Seattle Transportation Department (SEATRAN) and Seattle Public Utilities/Engineering Services Branch (SPU-ESB).

Nielsen-Wurster performed an analysis of the effectiveness of the Framework (structure) and Execution (process) as it currently exists and gave particular focus to:

- The split in responsibility for transportation planning functions between OMP and SEATRAN, and how this affects efficiency and the City's overall effectiveness on transportation issues both internally and externally,

- The particular points of interface between SEATRAN and SPU's ESB for completing a construction project, and how the split in responsibilities can be made more efficient; and

- The extent to which the City is assured of cost-effective completion of projects.

The preliminary findings of this Review were presented to Councilmembers, representatives from City Central Staff, and the Directors of SEATRAN, OMP, and SPU-ESB, as well as numerous City staff from SEATRAN and SPU-ESB. The results of the Organizational Review include factual context, industry comparisons, findings and recommendations for improvement.

II. EXECUTIVE SUMMARY

Several problems were identified during the execution of the SLI Organizational Review. These problems impact the delivery of Transportation Capital Improvement Projects (TCIP). The problematic areas included:

Definition of Roles and Responsibilities between Departments
Lines of Communication
Project Scope Definition
Design Processes and Coordination
Project Management Reporting Processes

Nielsen-Wurster identified solutions to overcome the problem areas identified above. The recommendations are based in part on processes that have been successfully implemented within the four organizations discussed in the Industry Comparisons/Models Section of this Report, as well as, the extensive experience of the Nielsen-Wurster senior audit team on a wide range of projects for transportation authorities both in the United States and internationally.

The recommendations are organized into three areas: **Staffing Enhancements, Philosophical Changes**, and **Process Enhancements**.

Staffing enhancements will require SEATRAN to add empowered and well-trained Project Managers who will be supported by the addition of a Project Controls Division. The Project Controls Division will provide all the internal and external project progress status reports. The addition of these two elements will allow SEATRAN to reestablish itself as an active, hands-on owner committed to delivering transportation projects in a timely manner.

The cost impacts of staffing enhancements, as discussed in this Report, were not evaluated by the Nielsen-Wurster Group as it was not within the scope of this Review to do so. Nielsen-Wurster indicated in the many presentations conducted for the City that the method by which the City choose to implement the staffing enhancements would be at its discretion. Nielsen-Wurster does not have knowledge of the City's procedures for addition/deletion/transfer of staff. Nielsen-Wurster did take into consideration as part of these recommendations the human performance impacts and the impact prior reorganizations have had on staff morale.

Philosophical changes include re-educating SEATRAN management to regard itself as an empowered owner who ultimately bears responsibility for delivering transportation projects to the City of Seattle in both a cost-effective and timely manner. SEATRAN is the "Program Manager"

for Transportation Capital Improvement Projects. SEATRAN's role as owner requires effective management skills and a clear understanding of its responsibilities.

Process enhancements will allow for better management of scope, schedule and budgets through internal tracking processes. The tracking processes will include development of project schedules, budget and performance monitoring, and production of quality summary level project reports. It will be necessary for SEATRAN to acquire a project management software, such as Artemis or Primavera. The monitoring process will provide the information necessary for SEATRAN to evaluate the level of service they are receiving from ESB, who is presently the preferred provider, or should the need arise, from outside consultants. In addition, the Nielsen-Wurster group has recommended that internal tracking procedures be established to identify, early in the project life cycle, the major project milestones and budget constraints. Implementation of these processes will increase the opportunity for SEATRAN to be successful in achieving its project delivery goals.

III. METHODOLOGY AND APPROACH

Nielsen-Wurster's objective has been to provide the City with an independent review and provide recommendations on organizational responsibility and processes to enhance the overall performance of transportation project delivery in the current organization. This Review conforms to generally accepted auditing standards. The Organizational Review focuses on the division of responsibilities for transportation planning functions between the OMP and SEATRAN and is intended to identify how the City can improve the overall effectiveness of its management of transportation projects, in addition to evaluating how the allocation of the responsibilities can be made more efficient. The Review also analyzes the division of responsibilities and interface between ESB and SEATRAN for completing project design and construction. Nielsen-Wurster compared the City's current organizational structure and work practices with other organizations that have similar organizational structures which are considered to be delivering transportation projects in an efficient and cost effective manner.

For this specific organizational review, Nielsen-Wurster utilized a fully integrated team composed of a small core of highly experienced, senior personnel. This integrated team structure approach provided the appropriate balance of experience to quickly identify the primary issues and focus our main effort in those areas.

Nielsen-Wurster Audit Standards and Criteria

The management audit analyses which Nielsen-Wurster conduct are in accordance with Generally Accepted Auditing Standards. The comprehensiveness of the management audit is heavily predicated upon the incorporation of these auditing standards into the framework of the engagement approach. "Generally accepted auditing standards" refers to the pronouncements set forth by groups such as the Comptroller General of the United States and the American Institute of Certified Public Accountants (AICPA). These standards are published, respectively, in the Government Auditing Standards known as the "Yellow Book" and the AICPA Professional Standards - U.S. Auditing Standards, Volume A. The auditing standards contained within these documents concern not only the auditor's professional qualities, but also the judgement exercised in the performance of the examination and preparation of the report.

Nielsen-Wurster's review and reports (oral and/or written) incorporate such management auditing standards employed by the Comptroller General and the General Accounting Office of the United States into those we have developed for our specific engagements. These standards relate to the general conduct of reviews in the areas of finance and compliance, economy and efficiency, and program results. As such, these standards provide a broad framework for the conduct of any management audit and performance assessment.

Approach

The evaluation approach taken by the team was developed as two phases: the **Framework** phase and the **Execution** phase. The **Framework** phase was directed at obtaining an understanding of all of the elements of the organizations, roles and responsibilities, as well as procedures, management systems, interfaces and processes that have been implemented. Nielsen-Wurster selected and reviewed a series of preliminary documents to establish a knowledge of the history of the development of SEATRAN's current organizational structure and the framework in which transportation planning and projects are delivered. These preliminary documents included:

- Preferred Provider Agreements, including the original from 1997 and the 1998 revision
- Memorandum of Agreement
- Organizational Charts
- Statement of Legislative Intent, both "Project on Enhanced CIP Performance" and "Organizational Review of Transportation Functions."
- ECIPP Phase I Presentation and Supporting Documents, Interviews and Meeting Minutes
- Other Meeting Notes
- TCIP Reports
- Project Status Reports

Following the review of these **Framework** documents and procedures, the audit team conducted interviews of key management personnel. The interview process was conducted to ensure that the audit team fully understood the intent of the documents and allowed the team to clarify aspects of the structure and processes which were not fully documented. Personnel from various organizations were interviewed to provide a full range of insight and opinions regarding where issues (barriers) to performance exist. Management and supervisory personnel were interviewed from the following departments:

- SEATRAN
- SPO
- SPU and ESB
- The Legislative Department
- Consultants
- City Councilmembers

After the preliminary document review and concurrent with interviews during the **Framework** phase, Nielsen-Wurster began its review and evaluation of the organization, roles and responsibilities, staffing, procedures and processes as they currently exist. The interview process

also prompted Nielsen-Wurster to request additional documents for review. These additional documents allowed the team to further evaluate the effectiveness of the management process in the current organization:

- Seattle City Organizational Charts and Adopted Budgets for 1996 and 1997
- ECIPP Phase II and III Documents
- Examples of Project Status Reports, Schedule Reports, Project Specific MOAs, and Scope of Work
- Seattle Draft Transportation Strategic Plan
- 1999-2000 Budget Guidance Statement (BUGS): Review of Neighborhood Planning and Other Functions
- Mayor's Initiative
- SEATRAN - ESB Appreciative Inquiry (Partnering Seminar)

Fully understanding the **Framework** within which the organizations operate allowed the Nielsen-Wurster team to analyze and evaluate the effectiveness of the **Execution** of the plans within the framework and the management process. Nielsen-Wurster's analysis and evaluation focused mainly on four areas:

- The interaction of SEATRAN with ESB in defining project scope to meet planning criteria.

- The role of SEATRAN's Leads and their effectiveness in developing an initial project MOA.

- The level of effectiveness of SEATRAN in its role as owner providing oversight of ESB on the delivery of engineering support services for transportation projects.

- SEATRAN's interrelationships with other City departments which are involved with project delivery of transportation projects.

Industry Comparisons/Models

Nielsen-Wurster selected the following organizations as comparison models because these entities have developed management practices and processes that resulted in successful project delivery systems:

- **Utah Department of Transportation (UDOT), Salt Lake City, Utah**

  UDOT utilizes a functional organization structure but recently has implemented a projectized organizational structure to accommodate projects that are of a significant size and cost. The reconstruction of the I-15 in Salt Lake City resulted in UDOT forming a project team that is dedicated to managing the $1.6 billion design and construction program. The project team has approximately 25 UDOT personnel and the remainder of the Project Management staff, which totals approximately 50 people, is comprised of consultants which act as an extension of staff to UDOT. The organizational lines between the UDOT staff and consultant staff are virtually invisible because they are located in the same office and ultimately have the same goal which is to deliver the project on time and within budget.

  One other noteworthy issue is the fact that this project is the first project on which UDOT has utilized a Design/Build project delivery approach. This approach created some special requirements that were dealt with by implementing some innovative measures such as performance monitoring and competitive outsourcing. Performance monitoring is a process that is particularly helpful to evaluate and measure the success of a provider of services. SEATRAN would derive a great benefit from implementing a similar process. These techniques have contributed to UDOT's success in carrying out its role as Owner/Program Manager.

- **British Columbia Ministry of Transportation and Highways (BCMOTH)**

  BCMOTH was a fatally self-contained organization with full planning, design, construction and maintenance capabilities with little or no services being outsourced (contracted to the private sector). Due to certain problems which had developed on a major project, the policy decision was taken that the organization should move to a greater dependence on services being contracted to the private sector.

  The initial function to be outsourced was highway maintenance and was effectively implemented in the early 1990s. This was followed quickly with a program to outsource essentially all of the design and construction for the $1.27 billion Vancouver Island Highway Project.

  In 1995, the Province introduced the Transport Funding Agency (TFA). The TFA mandate effectively transferred ownership of the highways to the TFA, transforming BCMOTH into a service provider. This was a dramatic change in the role of the Ministry and its project delivery approach. The transition has been effectively achieved, but as may reasonably be expected, there were a number of barriers and hurdles to overcome.

Outsourcing is a means of balancing staffing needs. If used pro-actively rather than retroactively, it can be cost-effective and efficient to reduce periods when staffing requirements for a project exceed the peak levels.

- **United Kingdom**

Many aspects of the UK public sector have also experienced a transition in the way services are provided. Over the past five years or more, all aspects of the service delivery have been subject to close scrutiny and testing to determine the most cost effective approach. Local Authorities have been required to subject all but a few of the most essential and sensitive services to competitive bidding, where the in-house service provider has been required to compete with the private sector using Compulsive Competitive Tendering (CCT). This has had mixed results and is currently being overhauled and transformed into a "Best Value" test.

The UK transport sector has been completely restructured over the past 10 years. British Rail, the public rail sector, has been privatized and the Department of Transportation (DOT) has been restructured. Highways are now the responsibility of the Highways Agency. The Highways Agency contracts with private sector Maintenance Management Agents for all of its maintenance responsibility, major schemes or Design Build Finance Operate and all designs for conventional construction are outsourced to the private sector.

The Highways Agency and other major procurement organizations are moving toward using Alliances and Partnerships to meet their resource requirements.

The relevance of these agencies practices' to the City of Seattle is to illustrate how innovative processes are being developed to achieve cost effective project completions. SEATRAN would benefit from a "Best Value" process in which ESB would be required to compete with the private sector to determine if they continue to be the most cost effective and efficient provider of design services.

- **Transportation Corridor Agency (TCA), Orange County, California**

TCA is a joint powers agency that maintains a minimum staff size of about 50 people, yet this Agency will deliver approximately $4 billion in transportation projects. The three toll-road projects are being delivered through the Design/Build approach. TCA is very effective at managing its role as Program Manager and utilizes outsourcing, in the same manner as UDOT, to provide the many engineering support services required by these projects. Recently, TCA implemented a performance monitoring program to ensure that both the

Design/Builder and the consultants acting as an extension of TCA staff are performing to an acceptable level.

While the organizations discussed above deliver large infrastructure projects much greater in size than most of SEATRAN's CIP program, Nielsen-Wurster's focus was not on the size of the project but rather on the successful means by which these organizations deliver their transportation projects in a timely and cost effective manner. It was the processes and procedures that were felt to be of benefit to SEATRAN in improving its performance.

IV. HISTORY OF PRIOR CITY REORGANIZATIONS

The City of Seattle organization has been restructured several times during the past 10 years. This situation has left a feeling of cynicism among the staff with regard to the usefulness of reorganizations and what they accomplish. Seattle City staff has grown resistant to change thus making it difficult to implement more changes or enhancements to the present organizational structure. To gain a better understanding of the dynamics that exist between SEATRAN and Seattle Public Utilities - Engineering Services Branch (SPU-ESB), it is important to examine the events that led to Seattle City Council's commissioning of the Statement of Legislative Intent (SLI) entitled "Organizational Review of Transportation Functions" and its intended purpose.

The following is a brief history of the events that took place leading to the development of SEATRAN and SPU-ESB. It is an important element of this audit that the Nielsen-Wurster team develop a thorough understanding of the rationale behind prior reorganizations, as well as the 1997 reorganization. This allows for insightful recommendations and assists in targeting the processes that work well, and identifies those areas which need improvement.

Background

During the late 1980s, Seattle Engineering Department (SED) provided various services to its customers, primarily Seattle City Light (SCL) and the Water Department. In an attempt to streamline SED's operation, the Department was reorganized and is depicted in **Exhibit 1**, City of Seattle's Organizational Chart. This chart graphically depicts SED's location within the Utility and Transportation Program and represents the City's structure through the 1996 Adopted Budget.

SED was organized into an executive management division and four line divisions, which included two utilities (drainage and waste water utility and solid waste utility), the Transportation Division (TD) and Engineering Services Division (ESD). The Organizational Chart for SED, as it existed in 1996, is represented in **Exhibit 2**. This model gave the utilities their identity and provided clarity for roles and responsibilities. To alleviate the financial management problems, responsibility for budgets was also given to the divisions. ESD's primary function was to provide engineering support and consulting services to the two utilities and the transportation line divisions. The services provided by ESD were design, construction management, monitoring, and inspection for capital improvement projects and operations and maintenance (O&M) projects for the City's infrastructure. In effect, SED was organized into four functional groups referred to as "silos"— transportation, drainage water, solid waste, and engineering services. From the City of Seattle's 1996 Adopted Budget, the Position List (see **Exhibit 1**) shows that ESD had 197 positions.

TD was responsible for the maintenance and operation of the streets, structures, and traffic control systems for the City. They were also responsible for both capital and operational financial affairs. The division provided services to small business districts, downtown businesses, and neighborhoods. They played a major role in supporting the Mayor's vision as conveyed in the City's Comprehensive Plan and developed neighborhood plans in cooperation with the other city departments. The position list (see **Exhibit 1**) indicates that TD had 536 positions allocated for 1996.

The Mayor provided clear direction, through a Memorandum of Agreement, that ESD was to be the preferred provider for engineering services for the divisions of SED. The SED method of project management, especially when a project involved multiple disciplines, was to move the project from one discipline group to another. As such, the City did not have an engineering division that was solely responsible for TD work. Because of this, the Roadway Structures Group in TD did not rely on ESD for its planning function or CIP work; they did it themselves. By comparison, the Water Engineering Group was organized into project teams who were responsible for the development of a project from beginning to end. The differences in the organizational structures within SPU has created resentment among staff which is akin to "the grass is always greener on the other side."

During the fall of 1994, Mayor Rice proposed, and the City Council agreed, to create two new offices in the Executive Department. Effective January 1, 1995 the Neighborhood Planning Office (NPO) and the Office of Management and Planning (OMP) were created. The NPO was created for a limited life span of four years which was to expire at the end of 1998 unless extended by city ordinance.

Events Leading Up To Reorganization

As early as 1994, Mayor Rice and the City Council determined that the utilities could work together more effectively by segregating the utility functions. This solution attempted to resolve many of the functional organizational problems by creating a central pool for engineering support services, but failed to address issues concerning how human resources would be allocated across the many projects for which SPU is responsible. There were project delivery problems in the "silo" structure of SED which stemmed from an inability to forecast staffing levels. Other issues arose because of the variation in emphasis placed on achieving project goals and deadlines and that these differed across each of the divisions within SPU. Conflicts arose between TD and engineering services because TD felt that they did not have direct supervisory control of the engineering support services that they required and that projects were not being delivered in as timely a manner as SED had promised. On the other hand, SED complained that TD caused delays in projects because of community issues, funding issues and/or a lack of decision making.

Mayor Rice and the City Council wanted problems solved from the customer's point of view, i.e., consolidate administrative functions, communications and management. The goal was to address environmental, customer service, and efficiency issues in the City. This would be accomplished by organizing all of the utilities, except Seattle City Light (SCL), together under one department. A study was done for the Mayor that detailed and recommended five different models of city government. Mayor Rice chose the Utility and Public Works Model, which was not one of the original five detailed in the study. This was an attempt to get rid of the "silos" and also to eliminate the continuing transportation funding versus execution problems.

Transportation funding differs from utility funding in that transportation does not have a steady predictable source of revenue like utilities. Utility rates are based on local money and are set, while transportation funding involves local, state and federal funds that carry a myriad of issues and problems. Transportation Operations and Maintenance work and Capital projects were, and still are, funded through a variety of revenue sources. The State Gas Tax is distributed to the City from the State and is allocated among Washington's cities based on a formula. There is also revenue from motor vehicle excise taxes, permit fees, vehicle license fees and other various service fees. Revenue also comes through the City's General Fund, which comes from property taxes and other sources, the Cumulative Reserve Fund, and Public Works Trust Fund loans. These monies are leveraged against federal grants (ISTEA) to provide funding for transportation projects.

Mayor Rice's initiative toward reorganization to integrate the utilities continued, and in the spring of 1996, the Mayor directed that all engineering services were to be moved to a central pool. The "Mayor's Initiatives For The Utility Cluster" (see **Exhibit 3**) describes and details the purpose, approach and proposed changes to be considered. The directive from the Mayor was to restructure the organization and rethink the approach to delivery of utility services:

> *"- To improve and enhance services to customers*
> *- To deliver these services in a more cost-effective manner*
> *- Achieve savings in excess of 3 million dollars per year"*

This reorganization included all utilities, except SCL and the transportation division, in the new Seattle Public Utilities (SPU). The objective of the reorganization was to improve services, reduce processes, and eliminate duplicative services within each department. In addition, it was believed that by grouping engineering support services within one department, it would allow for better forecasting and allocation of human resources to level out the workloads. The goal was to better coordinate street openings for maintenance and capital projects and to link and improve programs and communications between utilities. The Mayor set up a focal point for dealing with transportation issues by creating Seattle Transportation Department (SEATRAN).

In February 1996, Mayor Rice directed the City to implement the reorganization. By April 1996, the alternatives were laid out and the mayor selected a model. Reorganization planning started and was implemented in January 1997.

The 1997 Reorganization

On January 1, 1997, the City reorganized departmental functions to increase efficiency, improve customer service and centralize similar functions. The reorganization was sold on the idea that ESB was going to be a servicing organization, like a consultant, to the various city groups that needed engineering services. **Exhibit 4** shows the reorganized City of Seattle Organizational Chart, which shows the City Light, Seattle Transportation and SPU departments structure under the Utilities and Transportation Program. This structure was represented in the 1997 Adopted Budget.

The SED reorganization moved ESD to the new Seattle Public Utilities (SPU) along with the other utilities while TD became the Seattle Transportation Department, SEATRAN. Most of the services provided to TD by ESD were absorbed by the Engineering Services Branch (ESB) of SPU. SEATRAN would have a more visible role as owner of City transportation projects and would act as the primary point of contact and manage all efforts necessary to delivery transportation projects, but would continue to receive engineering support from SPU.

SEATRAN was charged with the overall responsibility for transportation functions in the City. The reorganization meant that SEATRAN would interface with other city departments, including:

- Engineering Services Branch (ESB) of the Seattle Public Utilities (SPU), which has the responsibility for project management, design, and construction.

- Executive Service Department, which has the responsibility for administration of construction contract public bidding and contract compliance. The budget functions from OMP are in this branch.

- Strategic Planning Office (SPO), which has the responsibility for transportation policy and planning.

Exhibit 5 depicts the current organizational structure of SEATRAN, post reorganization. A handful of staff were reallocated to SEATRAN from SPU, but essentially SEATRAN's organizational structure did not change appreciably after the 1997 reorganization. Much of the staff remained in the same physical work locations as they did prior to the reorganization. SEATRAN reporting responsibilities were altered and this has had an effect on the working relationships among staff in

both SPU-ESB and SEATRAN. The program/staffing changes that occurred with the reorganization were outlined in the City of Seattle 1997 Adopted Budget (**Exhibit 4**).

SEATRAN would still contract for all project management, public relation, design, engineering support services, contract services and construction management services associated with project execution from SPU, specifically ESB. The working relationship between SEATRAN and SPU-ESB is detailed in the Preferred Provider Agreement (PPA) which was executed in January 1997. Part of the reorganization was the establishment of a process in which a project-specific Memorandum of Agreement (MOA) is developed between SEATRAN and SPU-ESB for transportation capital improvement projects (see **Exhibit 6**).

Exhibit 7 reflects the current structure of SPU after the reorganization. SPU maintains the Strategic Policy Office and Communications Office, which are organized into five branches: Finance and Administration, Customer Service, Engineering Services, Resource Management, and Field Operations. These branches are functionally organized into divisions. Of the 1,200 to 1,300 staff in SPU, approximately 60 are related to transportation engineering support services.

The reorganization consolidated positions, eliminated duplicate functions, and centralized administrative functions. The reorganization permanently eliminated 84 positions within SPU, excluding the establishment of SEATRAN as a department (see **Exhibit 8**). The major consolidation of the 1997 reorganization was to move the field operations, resource planning and customer service functions of the water, sewer, drainage and solid waste utilities together. Supervisory and management positions were eliminated through attrition. For example, prior to the reorganization there were three survey groups, but after the reorganization effort a central pool of surveyors was created. The organizational structure of the Engineering Services Branch remained essentially the same but some of the internal vertical reporting lines were eliminated to streamline the process. The program/staffing changes that occurred in ESB with the reorganization were outlined in the City of Seattle 1997 Adopted Budget (see **Exhibit 4**).

Paul Schell was elected Mayor in January 1998 and he has maintained the organizational structure that was developed during Mayor Rice's term, making only minor revisions to the present structure. Mayor Schell separated the strategic planning functions from the Office of Management Planning and created the Strategic Planning Office (SPO). Mayor Schell wanted to being focus to four areas: housing, the social safety net, education and transportation. Thus one aspect of the newly created SPO was to assist with implementing the Mayor's plan for addressing the transportation needs of the City of Seattle. The budget function of OMP was shifted to the already existing Executive Services Department. There has been some need to clarify the split in roles and responsibilities between SEATRAN and SPO toward development of transportation planning and this is discussed later in this Report.

SPO is responsible for developing, in concert with the Mayor's Office, the City's overall transportation planning policy. Decisions on these matters are directed by the Mayor, through SPO, and ultimately the transportation planning details are implemented by SEATRAN who has responsibility for the capital improvement and O&M portions of the SPO policy, including executing the day-to-day operations.

V. THE FRAMEWORK AND EXECUTION

The existing framework was established as a result of the development of the Preferred Provider Agreement (PPA) which is the partnership agreement between SEATRAN and ESB. The execution or intended process to be followed is outlined in the Memorandum of Agreement (MOA) which governs the delivery of TCIP projects. MOAs are jointly developed by SEATRAN and SPU-ESB and are project-specific.

The Preferred Provider Agreement (PPA)

Under the terms of the 1998 PPA partnership agreement, the Transportation Capital Improvement Program (TCIP) activities related to project development and implementation that are currently provided to SEATRAN by ESB include:

- technical assistance in grant development,
- technical assistance in developing final project prospectuses for funding,
- conceptual analysis for activities that are not yet specifically funded projects
- combinations of project management, design, drafting, construction contracts, inspection, public relations and other activities associated with TCIP, emergency and opportunity project implementation, and
- technical design review.

The PPA generally outlines the tasks to be performed by SEATRAN and ESB. The areas addressed in the PPA include:

- Preliminary Engineering Activities
- Planning Activities
- Operating Procedure for Project Implementation
- Community and Public Relations
- Financial Management
- Project Reporting
- Monthly ESB/SEATRAN T-CIP Meetings

The PPA describes the roles and responsibilities of SEATRAN and ESB for each of the above activities.

The Memorandum of Agreements (MOAs)

The MOA, dated February 4, 1997, describes the overall process and applies to all projects in the TCIP, projects being developed for the TCIP, and to emergency projects. The MOA is intended to:

- establish SEATRAN as the client of SPU-ESB for project design and construction management services,
- assure that SEATRAN and SPU managers maintain accountability for scope, schedule and budget,
- establish the process for SEATRAN to make changes to TCIP scope, schedule and budget, and
- assure that SEATRAN approves any changes that increase costs or reduce grant reimbursements.

MOAs define the scope, schedule and budget for a project. The three types of MOAs include:

- **Preliminary Engineering MOA**

The first MOA is issued for the Preliminary Engineering Stage to begin the actual design work and covers the following:

- Confirmation of the initial scope of work
- Identification of problems not included in the initial project scope
- Verification of budget estimates
- Verification of the project schedule
- Establishment of an overall public relations plan and assignment of implementation responsibilities

The budget for this work is part of the total project preconstruction budget. The ST Lead and the ESB Project Manager (PM) work together to develop the scope, schedule, and budget at this stage. The ESB PM directs all staff work and supplies a preliminary engineering report that identifies potential issues which need to be resolved. Once the issues are resolved, the PM prepares a detailed scope of work, a schedule and a detailed estimate to complete design and construction. The ST Lead and Financial Analyst review this report and develop a scope, schedule, and budget for the Design Phase MOA.

- **Design Phase MOA**

The second MOA stage includes the project scope, schedule, and budget, as agreed to in the Preliminary Engineering stage MOA. It includes all activities through bid and contract award. The ST Lead authorizes the contract award and approves the scope, schedule, and budget on which the awarded contracts are based.

- **Construction MOA**

The third and final MOA stage is signed and initiated after the construction contract has been awarded. It includes the scope, schedule, and budget as established in the construction prospectus or city/state agreement for grant funded projects. The budget shows the actual contract amount, the estimate for contract administration, and the project contingency. A revised public involvement plan is also included.

VI. PROBLEMS: TRANSPORTATION PROJECT DELIVERY

Several problems were identified during the execution of the SLI Organizational Review. These problems impact the delivery of Transportation Capital Improvement Projects (TCIP). The problems related to the following areas:

Definition of Roles and Responsibilities between Departments
Lines of Communication
Project Scope Definition
Design Processes and Coordination
Project Management Reporting Processes

Definition of Roles and Responsibilities Between Departments

SEATRAN and ESB have lost sight of the intent of the PPA. Roles and responsibilities have become blurred and in many cases the roles have been completely switched. Although the PPA was revised and updated in 1998, it has not corrected the informal working processes which do not reflect the true intent of the PPA. Staff as well as management actually believe that they are following the guidelines of the PPA when in fact they are not.

In many areas, SEATRAN has abdicated its decision-making responsibility to ESB. This was not a decision by SEATRAN but rather it grew out of a belief within SEATRAN that you can only influence the outcome of a project if all staff working on the project are directly reporting to SEATRAN. This common belief has trickled down to staff levels. An example of this occurs when ESB fails to get approval from SEATRAN prior to spending additional monies to complete the design effort. SEATRAN feels powerless to require ESB to get pre-approval on budget to cover overruns and ESB believes that SEATRAN fails to properly define the scope of the project, which thus leads to overruns. It has resulted in ESB making design decisions without involving SEATRAN.

The question most often asked by SEATRAN staff was “How can we be held accountable for people and their work product when they don’t report to us?” During the open staff sessions that were conducted by Nielsen-Wurster, many comments concerned this issue. Many of the ST Leads and ESB PMs openly admit that they lack the tools to effectively manage people who do not report directly to them. SEATRAN’s answer to this problem has been to suggest another reorganization that would move all of transportation design services to SEATRAN. This solution would only be effective if the ST Leads had the proper skill set and were empowered to be effective Project Managers.

ST Leads have full-time responsibilities for Operations & Maintenance (O&M). ST Leads were designated as SEATRAN’s project representatives because many of the projects were not addressing

the O&M issues. The PPA outlines the ST Lead role and responsibilities as part of the MOA process. The problem stems from the limited amount of time they have to spend accomplishing these duties.

Some of the ST Leads lack training on proper project management procedures. In fact, ST recently held an internal training session that was aimed at helping ST Leads better understand their role and the process for interaction between SEATRAN and SPU-ESB with regard to the MOA process. Essentially SEATRAN management wanted to help the ST Leads feel empowered, less isolated and that there is a process for elevating issues to a management level.

Another problem with ST Leads allocating their time between full-time O&M duties and their MOA defined ST Lead responsibilities is that it leaves little time to allocate to public processes and are therefore are rarely involved. This has lead to SPU assuming primary responsibility for responding to community concerns.

Lines of Communication

The lines of communication between departments at the lower levels do not appear to be as problematic as at the senior management levels. For example, decisions relative to transportation planning come from the Mayor's office through SPO and SEATRAN is expected to implement them. The problem begins when there are hurdles to implementing these tasks and SEATRAN must resolve these difficulties. The Mayor's "Cluster Meetings" are intended to bring together the appropriate department heads that must be involved in matters wherein there is overlapping responsibilities. For example, on certain transportation matters it would be necessary for the directors of SEATRAN, SPU-ESB, and SPO to be at the same "Cluster Meeting".

There have been instances when all the appropriate department heads were not in attendance at the Mayor's meetings. These instances were not portrayed to Nielsen-Wurster to be simply a management staff schedule alignment matter but rather it was represented to be that the meeting organizers failed to include certain senior management. This matter was brought to Nielsen-Wurster's attention during our interview process with City staff. It was cited as being a problem that contributed to the lack of coordination on transportation planning issues specifically between OMP/SPO and SEATRAN.

SEATRAN and SPU-ESB relationships also suffer from poor coordination and communication. In fact, communication is an underlying issue that is common to all problems identified in Nielsen-Wurster's Organizational Review. Many personnel noted that the informal communication lines are often more effective at achieving completion of a task than are the formal lines of communication. Due to the prior reorganizations, certain staff have worked at times in SEATRAN and SPU and are therefore familiar with each department's processes and procedures. These staff often circumvent

the formal lines of operation to achieve a desired result in a more timely manner than the formal process allows.

Project Scope Definition

The MOA defines a process for effective project delivery but does not provide the project management tools to instill accountability and make it effectively work. In fact, merely getting a project specific MOA signed has become a process within itself.

There is a lack of performance monitoring against the signed MOAs. Additionally, there is no recourse for unsigned MOAs nor for poor performance with respect to achieving the MOA goals.

SEATRAN's funding requirements create special problems. First, project start and complete dates are not well defined and this leads to uncertainty and confusion, especially on computing accomplishment rates. Project completion dates are provided to the City Council prematurely and these dates and budgets are against which ESB's performance is measured. ESB's belief is that this is unrealistic because the dates and budgets are preliminary and require further refinement prior to being used as a performance measurement criteria. SEATRAN bears the responsibility for designating the project start and completion dates as well as the budgets but they do so with the support of ESB. Second, although SEATRAN has been successful at grant applications, the grant process as it exists encourages vague scopes, schedules and budgets.

Poorly defined project scopes have resulted in projects either overrunning or underrunning the established budget. Another outcome of projects that lack a defined scope is that redesign occurs during the later phases of work. This is both expensive and results in delay. The solution for projects with budget underruns is frequently to add scope to ensure that the total project budget is consumed.

Another problem stemming from poorly defined project scopes is the inability to adequately address community concerns. This is in part due to ST Leads' lack of involvement in pre-design community outreach sessions. Therefore, when the MOA designated handoff meeting between SEATRAN and ESB occurs at Project Initialization, the resolutions that may have been reached during the public process are not passed on to the design team within ESB. This results in final design plans that do not match the initial intent of a project or the design is modified late in the process to accommodate concessions/representations that were made to the community.

Design Process and Coordination

The design process in ESB is linear and results in too many handoffs which create delays in the project delivery process. Projects are moved from one functional discipline to another, being re-prioritized along the way. Projects that have been designated as high priority get a lot of attention and this helps them stay on time but disrupts staff efforts on other projects.

Lead personnel from SEATRAN and ESB need management direction on the appropriate amount and use of the public process. The City staff needs to know when management will support them and they can make commitments. Constituency concerns are often not addressed early on in the project life cycle and result in costly changes after the construction phase had started.

There has been little evaluation of alternative project delivery approaches. The approach utilized for the City's work is the conventional Design-Bid-Build. Additionally, the design process does not encourage value engineering.

Project Management Reporting Processes

The need for outsourcing of services is identified late and precludes their effective use. There is a perception that consultants cannot achieve any faster delivery of projects than the City, but in reality, on the rare occasions that it has occurred, the decision to rely on consultants is made late in the project design process. The consultant essentially inherits the delay of the process before they are even on board. If however, the availability of human resources was managed and forecast better, decisions for peak workload periods could be made in a more timely manner, thus allowing consultants to be brought on board sooner. Under the current situation, ESB must approve SEATRAN's use of an outside consultant, and therefore they are responsible for informing SEATRAN as early as possible of when the workload will be too much for ESB to handle in-house.

There is a lack of proper project control reporting within SPU-ESB. Presently, neither SEATRAN nor SPU-EBS maintain a master summary plan for transportation projects. This has contributed to a lack of understanding of a specific project's status and leads to project delivery dates never being established or clearly communicated. It is impossible for ESB to forecast staffing needs and leads to the Project Managers within ESB to compete for the same human resources to perform the design work.

VII. RECOMMENDATIONS: TRANSPORTATION PROJECT DELIVERY

Nielsen-Wurster identified solutions to overcome the problems identified above. The recommendations are based in part on the processes that have been successfully implemented within the four organizations discussed in the Industry Comparisons/Models Section of this Report as well as the extensive experience of the Nielsen-Wurster senior audit team. The recommendations are organized into three areas: Staffing Enhancements, Philosophical Changes, and Process Enhancements

Staffing Enhancements

- Addition of SEATRAN Project Managers

  To address the problem of ST Leads having limited time to commit to their designated MOA process responsibilities, it is recommended that SEATRAN hire/transfer/promote individuals that possess the essential project management skills necessary to be effective Project Managers.

  - Essential Characteristics for SEATRAN Project Managers

    Project Managers must possess general management skills to provide much of the foundation for building project management skills. Individuals who possess the ability to manage work relationships through motivation, delegation, supervision, team building and conflict management are well suited to be project managers. The Project Management Institute has identified the following skills as being characteristic of a good Project Manager:

    Leadership is the ability to establish direction by developing both a plan and a strategy for producing the changes needed to achieve that plan. Good leadership skills help to align people toward accomplishing a common goal by motivating and inspiring them.

    Communication involves the exchange of information. Good written, verbal and listening skills help to ensure that information will be distributed in a clear and concise manner, both vertically and horizontally within the organization.

    Negotiation skills are important to Project Managers because they are often called upon during the course of a project to negotiate scope, schedule and budget as well as changes, contract terms and conditions, and resources.

Problem solving is the ability to identify, define and resolve problems. Problem definition is the ability to distinguish between causes and symptoms. Once problems have been identified and alternative solutions developed, it is necessary for Project Managers to make a timely decision. The ability to evaluate viable solutions and determine the correct step to take is critical.

Influencing the Organization involves the ability to "get things done." It requires an understanding of both the formal and informal lines of communications and means of conducting business. The ability to influence people to accomplish a common goal even though those people are not in direct reporting relationship is key to the SEATRAN organization.

- Role of the SEATRAN Project Manager

The new SEATRAN Project Manager's (ST PM) role will encompass a greater set of responsibilities. The ST PM would act as the owner's representative to provide a single point of contact on transportation projects. The ST PM would be involved in the project "from cradle to grave" or from project inception to project construction close out. ST PMs will be responsible to coordinate, manage and direct all work effort including, but not limited to, the following activities:

- Preliminary Engineering
- Planning
- Public Information
- Financial Management
- Project Reporting
- Development of Scope, Schedule and Budget

The activities listed above will require assistance from other City departments, particularly from ESB who is presently SEATRAN's preferred service provider. ST PMs will work in a teaming fashion with the ESB PM to allocate enough ESB resources to execute the project within the dates that have been determined by SEATRAN. Any changes to predetermined scope, schedules or budget will need to be brought to the ST PM's attention so that SEATRAN, as the owner of the project, can make the necessary decisions.

Several questions arose during Nielsen-Wurster's presentations of the preliminary findings to City staff within both ESB and SEATRAN concerning the addition of PMs to SEATRAN. Many felt that to have two PMs on a project would duplicate effort. This is not the case because each of the PMs has a very different set of responsibilities.

The PM within ESB works with ESB's discipline managers to allocate resources to carry out the engineering support work for a SEATRAN project. Their focus is toward how ESB will accomplish the work within the time and budget allowed.

SEATRAN's PM role is to provide project oversight. This is accomplished by monitoring the project scope, schedule and budget, tracking project progress both internally within SEATRAN and externally, and conducting external performance monitoring.

- Addition of a Project Controls Division within SEATRAN

  In order for the ST PM to adequately provide project oversight, the PM will need to be supported by individuals who specialize in creating the control documents necessary to monitor a project's progress. Project Control Division responsibilities will include scheduling and project status monitoring and reporting. The internal tracking processes will be discussed later in this section of the Report and describe in more detail the types of project management reports that will be expected on any given project.

Philosophical Changes

Philosophical changes include re-educating SEATRAN management to regard itself as an empowered owner who ultimately bears responsibility for delivering cost-effective and timely transportation projects to the City of Seattle. SEATRAN's role as "Program Manager" for transportation projects requires effective management skills and a better understanding of its responsibilities.

- SEATRAN's Role as "Program Manager"

  The term "Program Manager" is appropriate to describe SEATRAN's role as owner. A project is defined as a task or group of tasks that have a defined scope, limited time frame and budget, and are intended to accomplish a specific set of objectives. A Program Manager utilizes project management techniques to direct and coordinate the use of labor and material resources throughout the project life cycle to achieve predetermined scope, schedule, budget, quality and stakeholder satisfaction. SEATRAN is responsible for development, implementation and delivery of many transportation projects within the CIP Program.

  SEATRAN must regard itself as an empowered owner who has the responsibility to ensure successful project delivery. SEATRAN is entitled to expect a certain level of performance from ESB as the service provider and to monitor ESB's performance against those expectations.

- Managing the PPA

  As was discussed above, SEATRAN and ESB have slipped into some informal work processes that do not reflect the intent of the PPA. Decisions that should be made by SEATRAN, as the owner, are being made by ESB. It should not be inferred that ESB is usurping SEATRAN's authority, but rather that design decisions are made throughout the design process that result in changes to scope, schedule and budget. These decisions are not always approved by SEATRAN prior to implementation because they are seen by ESB as logical next steps to resolving problems.

  SEATRAN can change this practice by becoming more actively involved in the project throughout the project life cycle. Implementing the recommendation to add empowered Project Managers means that oversight throughout the design process will be possible. The oversight role for ST PMs will include being involved in design reviews at typical 30%, 60% and 90% design completion milestones. The fact that PMs will be involved early in the public processes means that instances of near final designs failing to meet all the community commitments will be eliminated.

Process Enhancements

- Management and Development of the Scope, Schedule and Budget

  The project initialization MOA process is supposed to start with a team building meeting for development of an initial scope, schedule and budget. This process is viewed by both SEATRAN and ESB as a handoff meeting in which the project is "tossed over the wall." Neither Department accepts responsibility for the development of the scope, schedule and budget. SEATRAN, as the owner and Program Manager is the most appropriate entity for this task but it requires a partnered approach with ESB.

  The problems which stem from poor scope definition could be avoided if SEATRAN were to look at the initial scoping meeting not as a handoff meeting but as a "kick-off" meeting. This is the appropriate time for the PM to begin aligning and directing the team members toward accomplishing specific project goals and deadlines. In some instances, it may require a series of meetings with subtasks assigned as deliverables to be due at the next scoping meeting. The PPA provides for ESB staff to be available for a 1 to 2 hour meeting on new projects to discuss the details of the initial MOA without a work authorization number assigned at this point. Nielsen-Wurster's recommendation is that the PPA be modified to reflect a scope process that is more comprehensive and allows for a reiterative scope development process.

Serious consideration should be given prior to allowing a project to move forward prior to development of a detailed scope, schedule and budget. It may be necessary to revise the PPA to stipulate that, if an MOA is not signed, a project cannot go forward to design. The ST PM will be responsible for overseeing this process and therefore must have support from management within SEATRAN and ESB to resolve the matter of unsigned MOAs.

Nielsen-Wurster recommends that the City consider providing training to staff involved in the scope, schedule and budget process. As discussed above, SEATRAN did hold an internal training session, but the focus was on definition of roles and responsibilities. The training being proposed here would be to increase staff awareness of the problems which result from poorly defined scopes and look at tools and techniques that can enhance the scope development process.

To aid in better management of the project budget, Nielsen-Wurster recommends that SEATRAN request preliminary cost estimates from ESB for preliminary design services which are essential to the development of scope. ESB must work within that budget unless SEATRAN requests additional services that were not contemplated in the prior request for quotation. By documenting this process through cost estimates, it is easier for SEATRAN to understand why ESB may not have been able to complete the assignment within the original budget estimate. ESB would have to seek approval for additional funds for increases in their scope of work due to requests for additional work by SEATRAN. This process is similar to the change order process that a contractor and owner utilize to manage and control additions to the project budget.

- Internal Tracking

Internal tracking of a project involves timely recording of actual progress against planned progress. Effective management of a project requires that SEATRAN know what activities are complete, which are on schedule, and those that are running late at any given time. Additionally, activity completion tracked against allocated budgets provides valuable insight for making adjustments and results in better cost containment. These tracking processes will provide valuable knowledge which is essential for SEATRAN to become an effective and empowered owner.

Rather than documenting for paperwork sake, internal documentation should coincide with one of four functions:

- Informing: Factual only, used to transfer information
- Persuading: Used to change attitudes and opinions

- Motivating: Stimulating action through informing and persuading
- Directing: Giving instructions, typically from an authoritative position

Informing functions are most common, but each functional type has its place and level of importance for a given project. It is important that the documentation suit the needs of the user and is not just for the convenience of the producer. For example, an engineer may not wish to report anticipated late delivery of a plan, but the project manager must know such information and make appropriate adjustments to the summary schedule.

The basics of internal tracking require the development of a master summary schedule complete with design milestones and a list of activities to be completed. Cost-loading the schedule is also desirable such that actual expenditures may be compared to budgeted costs. Depending upon the size and complexity of the project, building a master summary schedule and cost loading it can require additional labor. However, the benefits generated by consistently monitoring the project will likely outweigh any additional labor expenses required to internally track project status.

Perhaps most importantly, tracking scope status yields the greatest benefit for minimal effort. Scope status agendas typically include:

- Discussion of project objectives
- Summary of project status to date
- Identifying critical activities
- Looking into the future (typically 3 months) and identifying potential future critical activities and ways to avoid problems
- Milestone status

At a greater level of detail, monitoring planned versus actual progress of individual activities also leads to effective management of projects.

- External Performance Monitoring

External performance monitoring is a pro-active (versus a reactive) approach to mitigating unforseen inefficiencies and production losses. It will provide a mechanism for SEATRAN and SPU-ESB to make their respective expectations known to each other.

- Advantages of External Performance Monitoring

Central to effectively monitoring external performance is a mutual understanding of performance criteria. Optimally, attaining a mutual understanding involves voluntary cooperation and coordination rather than taking a "whip and chair", or forced-compliance approach. Because SEATRAN and SPU-ESB maintain their own objectives and follow somewhat differing procedures for day-to-day operations, getting all parties to agree to a common set of performance criteria can be an arduous task. However, such efforts pave the way for project success.

Establishing mutually agreeable performance criteria assists project success by:

- Aligning SEATRAN and SPU-ESB with common goals and objectives;
- Eliminating ambiguities in contractual matters;
- Weaving predictability into day-to-day operations thus reducing personnel confusion as to roles and responsibilities;
- Generating accountability and sense of urgency to perform

SEATRAN and SPU-ESB must work as a team to carry a project from concept through construction. Team-building or partnering sessions can help to facilitate building a cooperative work environment in which both parties work to resolve problems in a positive and timely manner. Sometimes it is desirable to invite a facilitator to assist in developing mutually agreeable performance criteria. The facilitator assumes a neutral position while assuring that each group's interests are represented and in accordance with the common goal.

Tracking Progress

Performance criteria establish a measurable means of monitoring performance and progress toward a common goal. Critical performance criteria for projects typically include scope definition, schedule, quality control, quality assurance, public relations and budget. Each criterion, when specifically defined, serves as an independent benchmark to performance elements of a project. Brief discussions of these criteria and benefits generated by their use are presented below.

***Scope of Work*:** A project's scope of work defines the specifications of the desired end product. When clearly defined, the scope becomes the landmark by which all project activities are compared. By adhering to the agreed scope of work, extraneous work effort is reduced and productive effort enhanced.

Quality Control & Quality Assurance: A well-written QC/QA plan clearly defines an organization's operational procedures. This plan serves as the "rule book" for each day's activities. ISO 9000 is quickly becoming the standards protocol for business operations worldwide. This standard provides a detailed outline for documenting and following procedures which contribute to quality and consistency. The standard allows some flexibility, thus applying appropriately to both public and private sectors.

Timely Performance: Design milestones should be set at the beginning of a project and monitored at consistent time intervals. Progress toward a milestone typically equates to satisfactory performance. Conversely, lack of progress serves as an indicator for unsatisfactory performance and may flag management to make appropriate adjustments. Sometimes large problems could have been solved months earlier with just a little fine-tuning at the onset.

Scheduling and Project Management: A detailed approach to monitoring performance involves tracking progress against specifically defined activities. A baseline schedule is developed during a project's conceptual design then updated regularly (typically monthly) to reflect progress. Critical Path Method (CPM) scheduling offers great insight to management regarding critical activities and how to adjust time, budget and resources in order to meet scheduled deadlines. Schedule data can also be used to develop graphs and tables which help the analyzer to interpret results and identify inefficiencies.

Value Engineering: The PPA encourages SEATRAN and SPU to look for opportunities to save local funds, hence the recommendation to utilize to a greater extent value engineering. The important element to remember is that quality value engineering results in a reduction in the cost of the project without impairing the quality or essential function of the project. Value engineering is not a reduction in material quantities. During Nielsen-Wurster's interviews, some comments were made concerning the fact that presently value engineering consists of scope reduction. SEATRAN may wish to consider providing an incentive to ESB for coming up with value engineered concepts that result in cost reductions to the project.

Challenges of Performance Monitoring

Perhaps the greatest challenge in monitoring performance is generating reporting consistency between various individuals and departments. Monitoring efforts should be objective, but too often subjective measures inherently creep into the evaluations. Both SEATRAN and

SPU-ESB are complex organizations which enjoy a diverse cross-section of employees. With so many possible combinations of employee interaction, however, it is difficult to educate every person uniformly regarding proper monitoring procedures. Additionally, training takes time and not everyone responds equally to the same training. For these reasons, effective monitoring usually becomes an iterative process, demanding several rounds before noticeable benefits are realized.

- Competitive Outsourcing

Outsourcing, an alternative approach, over the past ten years, has become the normal business approach for many public organizations and private corporations.

The initiative for implementing outsourcing is to meet many differing and varying needs, including:

— seeking specialized skills
— to meet a shortage of internal resources, which can be short, medium or long term
— to achieve real or perceived "better value"

It has been Nielsen-Wurster's experience with a wide range of both public and private organizations that outsourcing program have had mixed results. It is our opinion that long term success can be achieved if a number of basic issues are addressed when outsourcing is being considered as an option, including:

- A rigorous evaluation of the needs and benefits for outsourcing
- Establish a corporate policy, communicate to the organization, and develop procedure
- Make the necessary changes to the organization staffing and management systems to effectively support the selected approach
- Communicate the approach and expectations to the industry

With the rapid evolution of alternative project delivery approaches, including

— Alliance and Partnerships
— Design/Build (D/B)
— Design Building Finance Operate (DBFO)

it is important that any evaluation of outsourcing be considered as only one element of project delivery options.

Outsourcing Benefits and Shortcomings

Some organizations have well established policies and procedures which define what services are to be provided through outsourcing and the methods and processing for selection and oversight, however, many others do not. When policies and procedures are not well defined, it inevitably leads to internal confusion and can cause delays in obtaining the additional services.

As was discussed previously, the decision to use outsourcing can be driven by many needs including obtaining, as opposed to retaining, specialist knowledge and skills, meeting peak demands, economies and the need to encourage private finance.

For each of these needs, with the possible exception of outsourcing to meet peak demands, there will always be debate as to the benefits and the shortcomings to outsourcing. Our experience has shown that when the decision is made to move from the use of internal resources to outsourcing there is inevitably the argument put forward that "it can be done cheaper in-house." This is typically based upon the rates charged by private sector organizations that are greater per unit, than in-house rates. This is an incorrect premise as the in-house rate frequently do not fully account for all overhead costs, similarly the outsourced resources can more easily be managed to meet fluctuating needs, demands and skills. The other frequent argument against outsourcing is the loss of in-house expertise and this is a major issue that need to be addressed in any strategy considering the outsourcing options.

The key elements to consider when utilizing outsourcing are:

- A rigorous evaluation of the options and benefits to be obtained
- If an outsourcing option(s) is chosen, a well developed implementation plan which considers all of the impacts including:
  - organizational
  - staffing
  - operational procedures
  - selection and monitoring

- economic
- political
- potential impacts on quality of customer service

The SEATRAN Approach

As with most management decisions, there is no simple solution that will satisfy all needs. The key is to make a decision that is optimum for the organization which is based upon a rigorous analysis of the factors. Outsourcing is only one element of project delivery and therefore a holistic approach is required. Additionally, it may be necessary to select differing options under different circumstances.

SEATRAN provides for delivery of City transportation projects, including operations and maintenance. The cost of these projects ranges from a few thousand dollars into the millions of dollars. A single project delivery approach will clearly not be appropriate to this wide range of projects. The challenge is to have a strategy which balances optimizing the approach without creating anarchy and confusion.

Outsourcing has been extensively used by the public and private sectors to effectively meet these challenges and it is an option that should be considered together with other aspects of program for the Seattle City Transport Program.

SEATRANS has the ultimate responsibility for the delivery of the City's transportation program and relies heavily on SPU-ESB for key elements of this program, namely design and construction. SEATRANS has little or no control over the SPU-ESB resourcing. The relationship between SEATRAN and SPU-ESB is the PPA which does not provide SEATRANS the authority to determine if its needs would be better met through outsourcing. ESB makes that determination and presently it does not happen very often. Outsourcing has the potential to meet some of the resourcing restraints experience in the transportation program delivery. However, it is important that the outsourcing options are only one element in the program delivery strategy.

If outsourcing options are to be considered, rigorous analysis will be required of program needs, and any solutions must be well developed, communicated throughout the affected organizations and potentially the industry. Necessary organizational changes and staffing adjustments must be implemented.